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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,715	10/12/2001	David S. Allison	16159.098001;P5944	3306
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OSHA LIANG L.L.P./SUN 1221 MCKINNEY, SUITE 2800 HOUSTON, TX 77010			EXAMINER ZHEN, LI B	
			ART UNIT 2194	PAPER NUMBER
			MAIL DATE 09/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/977,715

Applicant(s)

ALLISON, DAVID S.

Examiner

Li B. Zhen

Art Unit

2194

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 and 13 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 23 – 38 are pending in the current application.

### ***Response to Arguments***

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

3. Figures 1, 2, 3A, 3B, 3C and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. Figs. 1, 2, 3A, 3B, 3C and 4 are described in the section of the specification labeled "Background Art". See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2194

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**5. Claims 23 – 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,311,265 to Beckerle et al. [hereinafter Beckerle] in view of U.S. Patent No. 6,842,898 to Carlson et al. [hereinafter Carlson, previously cited].**

6. As to claim 23, Beckerle teaches the invention substantially including a method for communicating between threads [inter-process communication; col. 43, lines 5 – 18], comprising:

invoking a first thread [process 724, col. 42, lines 2 – 18; modern operating systems provide other mechanisms, such as threads or lightweight processes, and an alternative embodiment of the invention may use these mechanisms in place of some or all of the processes described, col. 54, lines 8 – 15];

associating a first input stream [input pipe, col. 42, lines 2 – 18 and col. 24, lines 17 – 22] and a first output stream with the first thread [output pipe of the process 724; col. 42, lines 2 – 18];

invoking a second thread [child process 724B, col. 42, lines 2 – 18; modern operating systems provide other mechanisms, such as threads or lightweight processes, and an alternative embodiment of the invention may use these mechanisms in place of some or all of the processes described, col. 54, lines 8 – 15];

associating a second input stream [standard in] and a second output [standard out] stream with the second thread [When the subprocess operator's runLocally( ) starts

Art Unit: 2194

executing, step 730 shown in FIG. 60 establishes standard in, and standard out, socket pairs for a fork; col. 41, lines 38 – 45]; and

writing a first data value from the first thread to the second thread using the first output stream and the second input stream [connects an output pipe of the process 724 to the standard input of its child process 724B; col. 42, lines 2 – 19 and col. 43, lines 5 – 33], wherein at least one selected from the group consisting of the first thread and the second thread manages an operating system process [step calls an operating system procedure that enables the loop 902 of the parent process to wait for execution of the current player's runLocally( ) to be executed by the child process; col. 44, lines 56 – 63]. Although Beckerle teaches the invention substantially, Beckerle does not specifically teach the threads comprise a program counter, a stack, a state, and a register set.

However, Carlson teaches communication between threads [col. 4, line 63 - col. 5, line 5] and the threads comprising a program counter [a thread typically includes a program counter; col. 4, lines 42 – 64], a stack [stack; col. 4, lines 42 – 64], a state [thread can have one of several states; col. 4, lines 42 – 64], and a register set [register set; col. 4, lines 42 – 64].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Beckerle to incorporate the features of Carlson because this provides a method and apparatus for handling call backs on system events for a collection of related threads [col. 4, lines 42 - 64 of Carlson].

Art Unit: 2194

7. As to claim 24, Beckerle teaches writing the first data value comprises using an operator associated with at least one selected from the group consisting of the first output stream [output pipe of the process 724; col. 42, lines 2 – 18] and the second input stream [establishes standard in, and standard out, socket pairs for a fork; col. 41, lines 38 – 43].

8. As to claim 25, Beckerle teaches using the second thread to generate a second data value by performing an operation on the first data value [col. 42, lines 17 – 35]; and writing the second data value from the second thread to the first thread using the second output stream and the first input stream [col. 42, lines 2 – 19 and col. 43, lines 5 – 33].

9. As to claim 26, Beckerle teaches the second thread is a child thread of the first thread [col. 42, lines 2 – 19].

10. As to claim 27, Beckerle teaches at least one selected from the group consisting of the first input stream [col. 42, lines 2 – 18 and col. 24, lines 17 – 22], the first output stream [col. 42, lines 2 – 18], the second input stream [col. 41, lines 38 – 45], and the second output stream is a standard stream [col. 41, lines 38 – 45].

11. As to claim 28, Beckerle teaches the standard stream is directly built into a dynamically typed programming language [col. 43, lines 5 – 18].

12. As to claim 29, Beckerle teaches associating a first error stream with the first thread [col. 40, lines 42 – 62].

13. As to claim 37, Beckerle teaches the first thread and the second thread are associated with a single process [col. 41, lines 55 – 65].

14. As to claims 30 – 36 and 38, these are product claims that correspond to method claims 23 – 29 and 37; see the rejections to claims 23 – 29 and 37 above, which also meet these product claims.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,675,189 discloses a system for learning and applying a task and data parallel strategy to an application.

### **CONTACT INFORMATION**

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768.


The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

Art Unit: 2194

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li B. Zhen  
Examiner  
Art Unit 2194



9/10/2007

LBZ